What are contaminant background levels at Rocky Flats?

Comparison to background values is used to distinguish between contamination associated with Rocky Flats activities and naturally occurring inorganic compounds, metals and radionuclides. There are no background values for organic compounds, because organics are presumed to be man-made.

Various background concentrations for plutonium have been calculated based on samples collected up and down the Front Range, outside the influence of Rocky Flats. Background values range from 0.01 picocuries (trillionths of a curie) per gram (pCi/g) to 0.1 pCi/g with an average of approximately 0.08 pCi/g. The RI/FS Report used 0.066 pCi/g as a background value. These background levels are the result of atmospheric testing of nuclear weapons in the 1950s and 1960s.

Naturally occurring uranium is present throughout the environment (in rocks, soil, sediments and water). This reality is of particular importance at Rocky Flats because the majority of uranium measured in surface water and groundwater at the site is from natural sources. Natural uranium has the same atomic number as uranium created by human activity (anthropogenic), but has a different mass, which can be measured with special analytical techniques. Colorado ranks third in uranium mining output with significant natural deposits of uranium across the state. The Schwartzwalder mine, located approximately five miles southwest of Rocky Flats in the Ralston Creek drainage, is the largest vein-type uranium deposit in the United States.